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The Journal of Economic History, Vol. 54, No. 2, Papers Presented at the Fifty-Third Annual Meeting of the Economic History Association. (Jun., 1994), pp. 358-381.

Stable URL:
http://links.jstor.org/sici?sici=0022-0507%28199406%2954%3A2%3C358%3AWCAWIB%3E2.0.CO%3B2-3

The Journal of Economic History is currently published by Economic History Association.

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The gap between the mean wages of black men and white men in the United States narrowed substantially between 1940 and 1950. There was, however, almost no change in this wage gap between 1950 and 1960. Some of this discontinuity in the path of black progress can be explained by general changes in the wage structure—wage compression in the 1940s and slight expansion in the 1950s. However, most of the gains of the 1940s were driven by race-specific factors, including increasing relative wages controlling for worker characteristics. These race-specific gains ceased in the 1950s.

Research on racial inequality among males in the labor market has begun to emphasize discontinuities in the economic progress of African-American workers—the starts and stops of wage convergence. In particular, economists have devoted much energy to understanding the rapid pace of improvement in black relative wages in the 1960s and early 1970s and their subsequent stagnation in the late 1970s and in the 1980s.[1]

Earlier discontinuities in the pace of black progress in the 1940s and 1950s have received less attention. Yet the strikingly different patterns of change in relative wages in these two decades call for closer examination. Between 1940 and 1950, the black/white wage ratio among nonfarm workers rose from 0.48 to 0.61.[2] This progress was not

The Journal of Economic History, Vol. 54, No. 2 (June 1994). ISSN 0022-0507.

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This work has been supported by funding from the National Science Foundation. I wish to thank John Bound, Kevin Murphy, Joe Altonji, Warren Whatley, and Elaine Reardon for advice and assistance.

[1] Throughout this paper "relative wage" refers to the ratio of the mean black wage to the mean white wage. See Freeman, "Changes in the Labor Market"; Donohue and Heckman, "Continuous Versus Episodic"; and Bound and Freeman, "What Went Wrong?"

[2] Based on males aged 18 to 64 who were nonfarm wage and salary workers and worked at least 40 weeks during the previous year. Members of the military, residents of group quarters, and enrolled students are excluded. Individuals who earned a weekly wage less than $1.50 in 1940, $3.25 in 1950, and $6.25 in 1960 are also excluded (these cutoffs are $10.79, $12.70, and $19.35 in 1982 dollars). These wages correspond to the lower bounds used by Smith and Welch, "Black Economic Progress." Data are from the Census PUMS 1/100 samples for 1940, 1950, and 1960. Only "sample line" persons are included in 1950. Throughout, calculations refer to weekly wages or the natural log of weekly wages. Sample sizes for white nonfarm workers are shown in Table 8. Sample sizes for black nonfarm workers are as follows: 10,894 in 1940, 5,193 in 1950, and 20,663 in 1960.

sustained into the next decade. In fact, the black relative wage among these workers fell slightly, to 0.59 in 1960.[3]

The tools used to study contemporary developments in the labor market may be applied to this earlier period to help us paint a more detailed picture of the long-term path of racial wage inequality. Specifically, hypotheses concerning the relationship between the shape of the overall wage distribution and measured racial wage inequality, which have been used to explain developments in the 1980s, may have direct relevance to the black progress of the 1940s and the stagnation of the 1950s.[4]

The basic insight of this approach is that changes in the relative wage can arise from "race-specific factors," which include both black workers' characteristics and the degree of discrimination in the labor market, and from factors apparently unrelated to race, such as change in the general structure of wages. Claudia Goldin and Robert Margo establish that the 1940s were a period of wage compression, both across education, skill, and occupation groups and within these groups, and that the wage distribution began to widen slightly in the 1950s.[5] It is likely that movement in the black/white wage ratio in the 1940s and 1950s reflects in part these changes in the general wage distribution. The observed increase in relative wages in the 1940s may therefore overstate the change in the role of race in the labor market, whereas the slowdown in racial convergence in the 1950s may primarily reflect the widening of the general wage distribution. The pace of black-white wage convergence through these two decades, once purged of these general wage-distribution effects, may be more steady than it initially appears. To understand how *racial* inequality, specifically, changed between 1940 and 1960, we need to factor out the effects of general change in the wage structure.

This paper investigates the effect of change in the general wage structure on measured black-white wage inequality in the 1940s and 1950s. As it turns out, slightly less than half of the 1940 to 1950 black-white wage convergence resulted from change in the general wage distribution, whereas the black-white divergence of the 1950s resulted

[3] The wage levels for black and white males in the sample are as follows:

1940: mean black wage = 106.55, mean white wage = 221.63
1950: mean black wage = 161.54, mean white wage = 264.73
1960: mean black wage = 212.56, mean white wage = 358.49.

All wages are in constant 1982 dollars. Using different sample restrictions produces different point estimates, but the general contrast between the 1940s and the 1950s continues to hold. For example, using 18- to 64-year-old males who were employed during the survey week, the wage ratios are 0.47 in 1940, 0.63 in 1950, and 0.60 in 1960. Using slightly different restrictions, Smith and Welch, "Black Economic Progress," find ratios of 0.43 in 1940, 0.55 in 1950, and 0.58 in 1960.

[4] Juhn, Murphy, and Pierce, "Accounting for the Slowdown."

[5] Goldin and Margo, "The Great Compression."

from the widening of the wage distribution and the cessation of net race-specific progress. When we include farmworkers, the impact of wage compression falls to 30 to 40 percent of overall black-white convergence in the 1940s. For the 1950s, inclusion of farmworkers leaves about three-fourths of the black-white divergence attributable to wage expansion, with about one-fourth now attributable to race-specific causes.[6]

CHANGE IN THE WAGE STRUCTURE, 1940–1960

During the 1940s, the U.S. labor market experienced what Goldin and Margo have termed the "Great Compression"—sharp declines in returns to education, in wage differences across occupation, and in the spread of wages within education and occupation groups.[7] In simplest terms, the wage gap between the highest and lowest earners declined sharply over these ten years. Among nonfarm workers, the gap between the log wage at the 90th percentile and the log wage at the 10th percentile fell from 1.33 to 1.01. Between 1950 and 1960, the gap increased to 1.11.[8]

This overall wage compression reflects reductions in wage differentials along a variety of dimensions. Consider differentials across education groups. As shown in Table 1, wage differences between high-school graduates and grade-school graduates declined for nearly all experience groups between 1940 and 1950 (those with 36 to 40 years of experience were the lone exception). In the 1950s, the wages of high-school graduates rose relative to the wages of grade-school graduates among younger workers (those with 25 years of experience or less), though this wage differential fell slightly for most older workers. Wage differences *across* these education groups are only part of the story. The wage distribution was also narrowing *within* education groups in the 1940s, as Table 2 illustrates. In 1940, the gap between the log wage at the 90th percentile and the log wage at the 10th percentile among workers with 12 years of schooling was about 1.31. By 1950, this gap fell to 0.90. It then rose slightly in the 1950s to about 1.00. A similar pattern of wage compression, then slight expansion, held within most education groups.

[6] Margo carries out a similar exercise for the 1940s (Margo, "Explaining Black-White Wage"). The analysis here differs from Margo's in that it considers changes in racial inequality in the 1950s, and it attempts to bring farmworkers more fully into the calculations. However, I do not make the adjustments for school quality that Margo makes, nor do I estimate the impact of wage compression on black teenagers' educational attainment via effects on their fathers' wages, as Margo does. There are other differences in sample selection and regression specification as well.

[7] Goldin and Margo, "The Great Compression." See also Williamson and Lindert, *American Inequality*, chap. 5.

[8] All calculations in this section are based on the wages of white males in nonfarm occupations, using the sample restrictions listed earlier (unless otherwise noted).

TABLE 1
RATIO OF HIGH-SCHOOL GRADUATES' MEAN WAGE TO GRADE-SCHOOL GRADUATES' MEAN WAGE BY EXPERIENCE GROUP

Years of Experience	1940 Ratio	1950 Ratio	1960 Ratio
0–5	1.458	1.280	1.395
6–10	1.355	1.270	1.435
11–15	1.370	1.259	1.298
16–20	1.356	1.226	1.263
21–25	1.370	1.193	1.273
26–30	1.380	1.290	1.271
31–35	1.299	1.261	1.227
36–40	1.276	1.292	1.236
41+	1.387	1.219	1.256

Notes: "High School Graduate" = exactly 12 years of schooling. "Grade School Graduate" = exactly 8 years of schooling. Experience = Age − Schooling − 6. Based on white male nonfarm workers aged 18–64 who worked 40 or more weeks in the previous year and who earned weekly wages greater than $1.50 in 1940, $3.25 in 1950, and $6.25 in 1960 (wages in nominal terms). See text for other exclusion criteria.

Wage differences across and within occupation groups, shown in Tables 3 and 4, behaved similarly. Between 1940 and 1950, wages paid to white-collar workers fell relative to the overall mean wage, whereas blue-collar wages rose relative to the mean. Looking at specific blue-collar and white-collar occupations, we find that wages in higher-paying occupations generally fell relative to the mean between 1940 and 1950, whereas those in lower-paying occupations generally rose. Wage differences across occupations did not move sharply in either direction in the 1950s. Examining within-occupation wage differences, we find that the "rapid compression, slight expansion" pattern held very consistently. The gap between the log wage at the 90th percentile and the log wage at the 10th percentile declined in all occupations between 1940 and 1950 and rose slightly in most between 1950 and 1960.

Although it is easy to illustrate these changes in the wage distribution, it is more difficult to pinpoint their causes. The compression of the 1940s may partly reflect the continuation of long-term reductions in skill

TABLE 2
WITHIN-GROUP WAGE DIFFERENTIALS BY EDUCATION GROUP

Years of School	1940	1950	1960	Change 1940 to 1950	Change 1950 to 1960
0–7	1.273	1.036	1.113	−0.237	0.077
8	1.178	0.932	0.974	−0.246	0.042
9–11	1.277	0.932	0.971	−0.345	0.039
12	1.311	0.903	0.999	−0.408	0.096
13–15	1.358	1.036	1.057	−0.322	0.021
16+	1.513	1.156	1.141	−0.357	−0.015

Note: Based on white, male, nonfarm workers aged 18–64 who worked 40 or more weeks in the previous year and who earned weekly wages greater than $1.50 in 1940, $3.25 in 1950, and $6.25 in 1960 (wages in nominal terms). See text for other exclusion criteria.

TABLE 3
RATIO OF OCCUPATION MEAN WAGE TO OVERALL (NONFARM) MEAN WAGE

Occupation	1940	1950	1960
White Collar	1.241	1.192	1.198
Blue Collar	0.861	0.898	0.875
Professional	1.462	1.277	1.260
Managerial	1.589	1.508	1.481
Clerical	0.989	0.938	0.887
Sales	1.126	1.086	1.083
Craft	1.021	1.004	0.981
Operative	0.826	0.861	0.830
Service	0.793	0.789	0.728
Labor	0.660	0.736	0.717

Note: Based on white male nonfarm workers aged 18–64 who worked 40 or more weeks in the previous year and who earned weekly wages greater than $1.50 in 1940, $3.25 in 1950, and $6.25 in 1960 (wages in nominal terms). See text for other exclusion criteria.

differentials that began near the turn of the century.[9] This long-term compression may have been driven initially by a reduction in the supply of low-skilled immigrants during and after World War I. Improvements in the efficiency of worker training, resulting in less time and expense devoted to training and more time spent recouping this smaller investment, may also have contributed to reduced skill differentials over the long term.[10] Goldin and Margo argue that the compression of the 1940s was more rapid than earlier trends and point to a variety of causes for this increase in pace, including an increase in the minimum wage in 1945, National War Labor Board policies that generally allowed increases in wages at the low end of the wage scale in war-related industry

[9] Ober, "Wage Differentials."
[10] Keat, "Long-Run Changes."

TABLE 4
GAP BETWEEN LOG WAGE AT 90TH PERCENTILE AND LOG WAGE AT 10TH PERCENTILE, BY OCCUPATION

Occupation	1940	1950	1960
White Collar	1.465	1.162	1.174
Blue Collar	1.207	0.920	0.987
Professional	1.447	1.089	1.051
Managerial	1.540	1.329	1.322
Clerical	1.147	0.808	0.861
Sales	1.386	1.240	1.260
Craft	1.091	0.882	0.891
Operative	1.120	0.838	0.947
Service	1.406	1.002	1.053
Labor	1.163	1.014	1.078

Note: Based on white male nonfarm workers aged 18–64 who worked 40 or more weeks in the previous year and who earned weekly wages greater than $1.50 in 1940, $3.25 in 1950, and $6.25 in 1960 (wages in nominal terms). See text for other exclusion criteria.

but restricted increases at the high end, and relatively weak demand for educated workers in the 1940s.

RACE-SPECIFIC SOURCES OF DECLINE IN THE BLACK-WHITE WAGE GAP

It is easy to see how these wage-distribution trends may have affected the black-white wage gap. Black workers with low education levels, concentrated in low-paying jobs, should have gained relative to better-educated workers in better-paying jobs during the 1940s, as wage differentials across these categories narrowed. If black workers were concentrated in the lower tail of the wage distribution within education or occupation categories, within-group wage compression would have raised their wages relative to those of white workers.

Clearly, though, change in the shape of the wage distribution was not the only source of black-white wage convergence in the 1940s and 1950s. Changes in black workers' relative level of education as well as changes in their access to new jobs promoted greater black relative wages. In addition, black migration out of the South and into higher-wage areas such as Northern cities served to raise the black relative wage. Unlike the general wage compression discussed earlier, these factors reflect underlying change in the position of black workers in the labor market. How well do these factors explain the discontinuity of black progress in the 1940s and 1950s?

Education

Studies of the role of education in reducing racial wage inequality have usually focused on longer periods than that considered here. James Smith examines the period from 1890 to 1980, with particular emphasis on the 1940 to 1980 period.[11] He finds that changes in education levels were a primary determinant of change in racial inequality. Margo, using some of Smith's results, finds that changes in relative educational levels explain about one-third of the decline in the black-white wage gap between 1930 and 1970.[12] Correcting for relative school quality, he argues that perhaps two-thirds of the 1930 to 1970 change (for 40- to 44-year-olds) can be attributed to changes in relative education. For the 1940s specifically, the importance of educational improvement is not so clear. In an examination of change in the black-white wage gap in the South between 1940 and 1950, Margo concludes that reductions in the racial schooling gap explain only 5 to 11 percent of the increase in the black-white wage ratio.[13]

[11] Smith, "Race and Human Capital."
[12] Margo, "Race, Educational Attainment."
[13] Margo, *Race and Schooling*, chap. 6.

TABLE 5
MEAN YEARS OF SCHOOLING AND DISTRIBUTION ACROSS SCHOOLING CATEGORIES, BY RACE

	1940		1950		1960	
	Black	White	Black	White	Black	White
Overall Mean	6.46	9.63	7.11	10.07	8.28	10.79
Share in Each Category:						
<8	.627	.187	.542	.173	.401	.131
8	.151	.267	.136	.194	.132	.148
9–11	.115	.201	.169	.218	.221	.216
12	.066	.209	.102	.260	.163	.291
>12	.043	.136	.051	.155	.083	.213

Note: Based on male nonfarm workers aged 18–64 who worked 40 or more weeks in the previous year and who earned weekly wages greater than $1.50 in 1940, $3.25 in 1950, and $6.25 in 1960 (wages in nominal terms). See text for other exclusion criteria.

Table 5 presents schooling means and distributions by race for 1940, 1950, and 1960. These figures indicate the improving relative educational level of black workers. However, they also indicate that changes in relative schooling levels do not correspond well with changes in relative wages in the 1940s and 1950s. The difference between black and white mean years of schooling fell by about twice as much between 1950 and 1960 as between 1940 and 1950. In addition, the percentage of black workers with less than eight years of schooling fell by 9 points in the 1940s and by 14 points in the 1950s (the percentage of white workers in this category fell by less than 2 points in the 1940s and 4 points in the 1950s). As black-white educational convergence gained speed in the 1950s, black-white wage convergence essentially stopped.

Occupational and Industrial Distributions

A variety of institutional and demand-side forces, outside of the impact of improvements in human capital, enabled black men to enter new jobs and new industries in the 1940s and 1950s. Perhaps the most obvious of these forces was the impact of the tight labor markets of the war era. Initially, black workers did not gain many jobs in rapidly growing defense-related industries. There was particular resistance to the introduction of black workers into "clean," "light" jobs in the aircraft, electrical machinery, and machine tool industries.[14] War-related labor demand did benefit black workers indirectly, though, as they were able to take on the jobs that white workers vacated when moving up to better war-industry jobs.[15] Ultimately, persistent labor shortages, along with increased government pressure on defense contractors, opened up new positions for black workers. As a result, the

[14] Weaver, *Negro Labor*, chaps. 2 and 7.
[15] Myrdal, *American Dilemma*, chap. 19.

percentage of black workers among war-industry workers rose from 3 percent in 1942 to 8 percent by 1944.[16]

The growth of labor unions in the 1940s and 1950s also affected black access to new jobs, though the nature of that effect varied over time and across industries. As the CIO attempted to organize mass-production industries in the late 1930s and early 1940s, it became clear that new unions needed the support of the large numbers of black workers in these industries and so needed to address racial discrimination in the workplace.[17] On the other hand, many unions continued to exclude black workers or assign them to subordinate status through the 1940s. At the beginning of the war, "stabilization agreements" between the government and all-white unions, such as the International Association of Machinists, created closed shops that prevented black access to new jobs in some industries.[18] Even in the late 1950s, the NAACP, in complaints to the AFL-CIO Civil Rights Department, cited practices of exclusion, discrimination in referrals, discrimination in assignment to promotion lines, and maintenance of segregated locals on the part of a number of unions.[19]

In the end, do we observe much change in the occupational and industrial distribution of black workers in the 1940s and 1950s? Table 6 indicates movement of black workers out of service and laborer jobs and into operative, craft, and clerical jobs during the 1940s. The index of dissimilarity for black and white occupational distributions declined from 47 to about 41 between 1940 and 1950. Between 1950 and 1960, black workers moved rapidly out of laborer jobs, but white workers became increasingly concentrated in professional and managerial jobs. As a result, the black and white occupational distributions converged little during the 1950s, at least as measured by the index of dissimilarity. Industrial distributions are found in Table 7. The story here is similar. The black and white distributions grew more alike during the 1940s but not during the 1950s. Much of the convergence during the 1940s was driven by the movement of black workers out of service jobs and into manufacturing.

The fact that black and white occupational and industrial distributions grew more similar in the 1940s but not in the 1950s fits the observed pattern of wage convergence. It appears that some of the discontinuity in black progress in the 1940s and 1950s may have been due to the war-era labor market and the opportunities it provided for black workers in the 1940s.

[16] Johnson and Campbell, *Black Migration*, chap. 8.
[17] Marshall, *The Negro*, chap. 3.
[18] Weaver, *Negro Labor*, chaps. 2 and 12.
[19] Marshall, *The Negro*, chap. 4.

TABLE 6
OCCUPATIONAL DISTRIBUTION OF BLACK AND WHITE MALES

Occupation	1940 Black Share	1940 White Share	1950 Black Share	1950 White Share	1960 Black Share	1960 White Share
Professional	0.022	0.063	0.022	0.086	0.034	0.120
Managerial	0.007	0.085	0.011	0.082	0.010	0.103
Clerical	0.031	0.133	0.049	0.097	0.073	0.090
Sales	0.009	0.083	0.014	0.081	0.012	0.074
Craft	0.066	0.209	0.099	0.263	0.118	0.259
Operative	0.232	0.264	0.305	0.263	0.334	0.246
Service	0.275	0.070	0.184	0.056	0.184	0.053
Labor	0.360	0.094	0.316	0.073	0.235	0.055
Index of Dissimilarity	47.1		41.5		39.9	

Notes: Index of Dissimilarity calculated as $\frac{\sum_i |b_i - w_i|}{2} * 100$, where i indexes categories (in this case occupations) and b_i and w_i are the share of black workers and white workers found in category i. Based on male nonfarm workers aged 18–64 who worked 40 or more weeks in the previous year and who earned weekly wages greater than $1.50 in 1940, $3.25 in 1950, and $6.25 in 1960 (wages in nominal terms). See text for other exclusion criteria.

Migration

Migration out of the South and to cities was a central phenomenon of the African-American experience in the 1940s and 1950s. Whites were very mobile during this period as well. In fact, white migration rates may have exceeded black rates in the 1940s and were quite similar to

TABLE 7
INDUSTRIAL DISTRIBUTION OF BLACK AND WHITE MALES

Industry	1940 Black Share	1940 White Share	1950 Black Share	1950 White Share	1960 Black Share	1960 White Share
Agriculture	0.020	0.006	0.013	0.004	0.014	0.005
Business services	0.027	0.025	0.028	0.030	0.026	0.026
Construction	0.073	0.057	0.090	0.079	0.093	0.084
Finance	0.036	0.044	0.023	0.034	0.023	0.039
Government	0.033	0.061	0.063	0.071	0.087	0.074
Manufacturing	0.281	0.376	0.354	0.383	0.336	0.404
Mining	0.027	0.030	0.009	0.023	0.005	0.018
Personal service	0.150	0.030	0.072	0.020	0.056	0.015
Professional service	0.044	0.040	0.048	0.042	0.077	0.060
Recreation	0.014	0.010	0.009	0.009	0.011	0.006
Trade	0.171	0.188	0.162	0.174	0.164	0.158
Transportation	0.125	0.133	0.130	0.131	0.108	0.113
Index of Dissimilarity	15.9		7.8		10.1	

Note: Based on male nonfarm workers aged 18–64 who worked 40 or more weeks in the previous year and who earned weekly wages greater than $1.50 in 1940, $3.25 in 1950, and $6.25 in 1960 (wages in nominal terms). See text for other exclusion criteria.

black rates in the 1950s. What was different about black migration was its uniformity of direction: blacks were leaving the South, and they were going to urban areas.[20] Between 1940 and 1960, the share of the black population residing in the South fell from 77 to 60 percent.[21] Black migration to cities both in the South and in other regions caused the proportion urban among blacks to exceed that among whites for the first time by 1960 (73 versus 66 percent).[22] Because wages were lower in the South than elsewhere, and because wages were higher in cities than in rural areas, black migration was an important contributing factor in the reduction of the black-white wage gap. Migration of black workers out of the South and into cities was considerably more rapid in the 1940s than in the 1950s. In the sample considered here, the percentage of black workers in the South fell about 11 points in the 1940s (from 68 to 57 percent) and only about 3 points in the 1950s (to 54 percent). The share of black workers in the central cities of SMSAs rose about 7 points in the 1940s (from 45 to 52 percent) and about 5 points in the 1950s (from 52 to 57 percent). Of course, the primary causes of migration changed during these years. During the 1940s, workers were pulled to new places by the tight labor markets of the period. During the 1950s, push factors, especially the displacement of agricultural laborers in the South, became more dominant forces behind black migration.

I have identified a number of factors that promoted black-white wage convergence between 1940 and 1960: changes in relative educational levels, changes in occupational and industrial distributions, migration, and general wage compression. Of these factors, wage compression, change in occupational and industrial distributions (due to some combination of government policy, union efforts, and tight labor markets), and migration all appear likely to have produced more rapid reductions in the wage gap in the 1940s than in the 1950s.

DECOMPOSING THE CHANGE IN THE BLACK-WHITE WAGE GAP AMONG NONFARM WORKERS: RACE-SPECIFIC EFFECTS VS. WAGE COMPRESSION

In this section, the decomposition technique developed by Chinhui Juhn, Kevin Murphy, and Brooks Pierce is used to distinguish between the effects of the various forces driving black-white wage convergence. The first step is to estimate a simple wage equation for white workers in each of the three cross sections.[23] Using these estimates, predicted

[20] Johnson and Campbell, *Black Migration*, chaps. 9 and 10.

[21] U.S. Department of Commerce, *Historical Statistics*, pp. 22–23.

[22] Johnson and Campbell, *Black Migration*, p. 132.

[23] Juhn, Murphy, and Pierce, "Accounting for the Slowdown." The included variables are labor market experience and its square, marital status, education, single-digit industry, single-digit occupation, SMSA residence, central city residence, region of residence, and separate slope terms for returns to education among Southern residents. I use a spline for education, with separate linear

wages are constructed for black workers in each cross section by multiplying each black worker's characteristics by the parameters of the white wage regression. A wage residual, $\hat{r}_i^{bl}$, is then calculated for each black worker as

$$\hat{r}_i^{bl} = y_i^{bl} - X_i^{bl}\hat{\beta}^{wh}$$

where y_i^{bl} = the black worker's true wage, and $X_i^{bl}\hat{\beta}^{wh}$ = the black worker's predicted wage (based on the white regression equation parameters, $\hat{\beta}^{wh}$, and the black worker's characteristics, X_i^{bl}).

The next step is to decompose the change in the mean black-white log wage gap, $\Delta\bar{y}^{gap}$, into the effects of change in the coefficients, change in the relative characteristics of black workers, and change in the average black residual. For the 1940 to 1950 change in the black-white log wage gap, we have

$$\Delta\bar{y}^{gap} = (\bar{y}_{50}^{wh} - \bar{y}_{50}^{bl}) - (\bar{y}_{40}^{wh} - \bar{y}_{40}^{bl})$$

$$= [\bar{X}_{50}^{wh}\hat{\beta}_{50}^{wh} - (\bar{X}_{50}^{bl}\hat{\beta}_{50}^{wh} + \bar{\hat{r}}_{50}^{bl})] - [\bar{X}_{40}^{wh}\hat{\beta}_{40}^{wh} - (\bar{X}_{40}^{bl}\hat{\beta}_{40}^{wh} + \bar{\hat{r}}_{40}^{bl})]$$

$$= [(\bar{X}_{50}^{wh} - \bar{X}_{50}^{bl})\hat{\beta}_{50}^{wh} - \bar{\hat{r}}_{50}^{bl}] - [(\bar{X}_{40}^{wh} - \bar{X}_{40}^{bl})\hat{\beta}_{40}^{wh} - \bar{\hat{r}}_{40}^{bl}]$$

where $\bar{X}_j^{wh}$ refers to mean white characteristics in year j, $\bar{X}_j^{bl}$ refers to mean black characteristics in year j, and $\hat{\beta}_j^{wh}$ refers to the (white) regression parameters in year j. Let $\bar{X}_{50}^{gap} = (\bar{X}_{50}^{wh} - \bar{X}_{50}^{bl})$. This is the mean difference between black and white characteristics in 1950. Define $\bar{X}_{40}^{gap}$ analogously. We can then rearrange terms to produce

$$\Delta\bar{y}^{gap} = \bar{X}_{50}^{gap}\hat{\beta}_{50}^{wh} - \bar{X}_{40}^{gap}\hat{\beta}_{40}^{wh} - (\bar{\hat{r}}_{50}^{bl} - \bar{\hat{r}}_{40}^{bl})$$

$$= (\bar{X}_{50}^{gap} - \bar{X}_{40}^{gap})\hat{\beta}_{50}^{wh} \quad (1)$$

$$+ \bar{X}_{40}^{gap}(\hat{\beta}_{50}^{wh} - \hat{\beta}_{40}^{wh}) \quad (2)$$

$$+ (\bar{\hat{r}}_{40}^{bl} - \bar{\hat{r}}_{50}^{bl}) \quad (3)$$

Term (1) indicates the effect of change in the relative characteristics of workers—the race-specific forces discussed earlier. Term (2) indicates the effect of changes in wage differentials across education, occupation,

terms for 0 to 7 years, 9 to 11 years, and 13 to 15 years, and separate dummy variables for 8, 12, and 16+ years. Dummy variables are included for residence in the Midwest, South, and West, with the Northeast being the omitted category. The South*education interaction terms are designed to capture the higher-skill premium in the South during this period. Note that I include a dummy variable for "missing SMSA or city status."

industry, experience, and regional groups. This term tells us the importance of the across-group wage compression.

Term (3) indicates the importance of change in the mean black residual. We need to examine this term further, because change in this residual might itself be driven by both "race-specific" forces and general wage compression. Tables 2 and 4 illustrate that wage inequality declined in the 1940s *within* education and occupation groups. The mean black residual could decline simply due to this general "within-cell" compression. At the same time, changes in black workers' relative returns to education, for reasons related either to school quality or to discrimination, and changes in relative wages within occupation and industry groups might also reduce the residual.

We need to distinguish between these two types of change in the black residual in order to be complete in our identification of "race-specific" versus "wage-compression" effects on the black relative wage. To do this, we decompose the residual into (a) change in the position of black workers in the residual distribution, and (b) change in the shape of the residual distribution. First, we rank white workers in 1940, based on their residuals, and then find the position of each black worker in this distribution, based on the black worker's wage residual. Next, we rank the 1950 white wage residuals and assign to each 1940 black worker a 1950 residual, based on the worker's position in the 1940 residual distribution. We then calculate the hypothetical mean 1950 black residual, based on the 1940 position of each black worker and the assigned 1950 residuals. The difference between the true 1940 black residual and this hypothetical residual indicates the effect of change in the shape of the residual distribution. This tells us the amount by which within-group wage compression reduced the black-white log wage gap. The difference between the true 1950 mean black residual and the imputed mean residual indicates the effect of improvement in the position of black workers in the residual distribution, holding the shape of the distribution constant.

We must keep in mind that change in the position of black workers in the residual distribution might arise from a variety of sources. Specifically, such change might reflect either change in the degree of discrimination or change in unobservable skills. Both of these forces are treated here as race-specific sources of change in black relative wages. Unlike much economic research on racial inequality, the purpose here is not to distinguish between discrimination and human-capital differences but rather to distinguish between the effects of change in the wage distribution and change in race-specific factors.

Regression results are presented in Table 8. These results generally corroborate the phenomenon of across-group wage compression in the 1940s. Estimated returns to labor market experience and to education declined between 1940 and 1950. In addition, wage differences between

TABLE 8
LOG WAGE REGRESSIONS

	1940		1950		1960	
	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.
Intercept	4.1516	0.0136	4.6471	0.0217	4.7982	0.0129
Experience	0.0386	0.0004	0.0275	0.0006	0.0307	0.0003
Experience^2	−0.0006	0.0000	−0.0004	0.0000	−0.0005	0.0000
Marriage	0.1872	0.0031	0.1686	0.0049	0.2126	0.0026
Schooling						
Years 0 to 7	0.0137	0.0016	0.0038	0.0025	0.0137	0.0016
Year 8	0.0710	0.0051	0.0521	0.0078	0.0352	0.0042
Years 9 to 11	0.0445	0.0018	0.0354	0.0027	0.0365	0.0014
Year 12	0.0466	0.0052	0.0201	0.0070	0.0373	0.0034
Years 13 to 15	0.0457	0.0030	0.0431	0.0040	0.0461	0.0018
Years 16+	0.1356	0.0095	0.1047	0.0130	0.1483	0.0055
Industry						
Ag-Forest-Fish	−0.3629	0.0163	−0.3249	0.0280	−0.3949	0.0127
Construction	−0.2103	0.0086	−0.1539	0.0129	−0.1195	0.0067
Manufacturing	−0.1021	0.0072	−0.1175	0.0117	−0.0787	0.0062
Transportation	−0.0228	0.0076	−0.1082	0.0123	−0.0801	0.0065
Trade	−0.2499	0.0076	−0.2340	0.0123	−0.2607	0.0065
Finance	−0.1170	0.0092	−0.2155	0.0151	−0.1779	0.0075
Business services	−0.2645	0.0102	−0.2530	0.0150	−0.2313	0.0079
Personal services	−0.3112	0.0098	−0.3414	0.0167	−0.3770	0.0092
Recreation	−0.1790	0.0135	−0.1959	0.0217	−0.2123	0.0125
Professional services	−0.2637	0.0096	−0.3283	0.0146	−0.3309	0.0072
Government	−0.0097	0.0087	−0.1646	0.0133	−0.1631	0.0069
Occupation						
Professional	0.3864	0.0073	0.2606	0.0103	0.2788	0.0048
Managerial	0.5040	0.0063	0.4169	0.0098	0.4124	0.0047
Clerical	0.1750	0.0057	0.0976	0.0093	0.0876	0.0046
Sales	0.2809	0.0064	0.2029	0.0101	0.2246	0.0051
Craft	0.2386	0.0056	0.1851	0.0085	0.1964	0.0042
Operative	0.1022	0.0054	0.0807	0.0085	0.0733	0.0043
Laborer	−0.0604	0.0063	−0.0381	0.0101	−0.0277	0.0052
Location						
SMSA	0.2156	0.0031	0.1587	0.0044	0.1644	0.0023
Central city	0.0057	0.0029	0.0055	0.0041	−0.0528	0.0021
City missing	0.1038	0.0127	0.0613	0.0173	−0.0059	0.0027
South	−0.3531	0.0168	−0.2844	0.0254	−0.3637	0.0146
Midwest	0.0369	0.0043	0.0870	0.0066	0.0594	0.0033
West	0.0862	0.0054	0.1440	0.0078	0.0967	0.0037
South*Schooling						
Years 0 to 7	0.0318	0.0029	0.0292	0.0044	0.0330	0.0025
Year 8	0.0312	0.0100	0.0430	0.0148	0.0342	0.0077
Years 9 to 11	0.0039	0.0041	0.0142	0.0057	0.0135	0.0029
Year 12	0.0481	0.0112	0.0325	0.0149	0.0406	0.0070
Years 13 to 15	0.0135	0.0060	0.0023	0.0085	0.0108	0.0035
Year 16	0.0160	0.0193	0.0214	0.0271	0.0069	0.0110
R^2	.3890		.2882		.3503	
N	144,848		59,235		243,482	

Notes: Omitted industry: mining. Omitted occupation: service. Omitted region: Northeast. Included set: white male nonfarm workers aged 18–64 who worked 40 or more weeks in the previous year and who earned weekly wages greater than $1.50 in 1940, $3.25 in 1950, and $6.25 in 1960 (wages in nominal terms). See text for other exclusion criteria.

occupation groups, between SMSA and non-SMSA residents, and between Southern and non-Southern residents all declined in magnitude.[24] Between 1950 and 1960, estimated returns to experience and to schooling in the 0 to 7, 12, and 16+ categories rose. The wage penalty for Southern residence also increased.[25] Changes in occupational differentials and industrial differentials were more mixed in the 1950s.

Within-group wage compression can be observed in changes in the white residual distributions resulting from these regressions. The gap between the residual at the 90th percentile of the distribution and the residual at the 10th percentile fell from 0.99 to 0.83 between 1940 and 1950. So even among white workers with the same observable characteristics, the gap between high earners and low earners narrowed. Between 1950 and 1960, this gap changed very little, rising from 0.83 to 0.84.

Results of the 1940 to 1950 decomposition based on these estimates appear in Table 9. I calculate two decompositions, using both 1940 and 1950 coefficients and characteristics as weights. The results of the decomposition do not vary greatly with the choice of these weights.[26] The story these calculations tell about the sources of improvement in black relative wages is striking. Between 1940 and 1950, the gap between the mean white log wage and the mean black log wage fell by 0.25, from 0.74 to 0.49. Change in the relative observable characteristics of black workers appears to have driven only about one-fourth of this large black-white wage convergence. In particular, change in the relative level of schooling among black workers accounts for only about 1 to 2 percent of the decline in the wage gap. Movement of black workers into new occupations and industries together account for between 9 and 11 percent of the decline in the gap. The most important change in black workers' characteristics was their change in location: migration out of the South and into SMSAs produced about 17 to 20 percent of the decline in the wage gap.[27]

Change in across-group wage differentials, as measured by changes in

[24] The reductions in returns to labor market experience and to all years of schooling less than 13 are statistically significant ($\alpha = .05$, two-tailed test). The coefficients for all occupation groups except laborer, the coefficient for SMSA, and the coefficient for South also declined significantly in magnitude. Of course, the coefficients for occupational categories tell us only about the wage differences between each category and the omitted group (service workers), and the coefficient for "South" tells us only about the effect of Southern residence relative to residence in the omitted region (the Northeast).

[25] These changes in coefficients are all statistically significant ($\alpha = .05$, two-tailed test).

[26] The decomposition using 1950 coefficients and 1940 characteristics as weights also uses the 1950 residual distribution and the 1940 position of black workers in the residual distribution to decompose change in the mean black residual. The decomposition using 1940 coefficients and 1950 characteristics as weights uses the 1940 residual distribution and the 1950 position of black workers. The same scheme is used for the 1950 to 1960 decomposition.

[27] This effect includes redistribution to SMSAs and central cities, redistribution across regions, and the effect of higher returns to education in the South.

TABLE 9

DECOMPOSITION OF CHANGE IN LOG WAGE GAP AMONG NONFARM WORKERS, 1940–1950, BASED ON LOG WAGE REGRESSIONS

	Total Change in Log Wage Gap = −.2513 Amount (percent of total) Explained by Change in Each Factor Based on:					
	1950 Coefficients/1940 Characteristics			1940 Coefficients/1950 Characteristics		
Change in Regression Coefficients:	−.0846		(34%)	−.0718		(29%)
Experience and Marital Status		.0085	(−3%)		.0064	(−3%)
Schooling		−.0374	(15%)		−.0353	(14%)
Industry		−.0046	(2%)		−.0016	(1%)
Occupation		−.0400	(16%)		−.0366	(15%)
Location		−.0108	(4%)		−.0048	(2%)
Change in Worker Characteristics:	−.0605		(24%)	−.0733		(29%)
Experience and Marital Status		.0058	(−2%)		.0078	(−3%)
Schooling		−.0020	(1%)		−.0044	(2%)
Industry		−.0141	(6%)		−.0172	(7%)
Occupation		−.0069	(3%)		−.0103	(4%)
Location		−.0433	(17%)		−.0492	(20%)
Change in Residual Gap:	−.1062		(42%)	−.1062		(42%)
Change in Shape of Distribution		−.0356	(14%)		−.0281	(11%)
Change in Position of Black Workers		−.0707	(28%)		−.0781	(31%)
Race-Specific Effects:						
Change in Characteristics +		−.0605	(24%)		−.0733	(29%)
Change in Position of Black Workers =		−.0707	(28%)		−.0781	(31%)
Total Race-Specific Change		−0.1312	(52%)		−.1514	(60%)
Wage Distribution Effects:						
Change in Coefficients +		−.0846	(34%)		−.0718	(29%)
Change in Shape of Residual Distribution =		−.0356	(14%)		−.0281	(11%)
Total Wage Distribution Effects		−.1202	(48%)		−.0999	(40%)

estimated returns to schooling, industry, occupation, and other observable characteristics, accounted for about 29 to 34 percent of the total decline in the black-white wage gap. About half of this share of the total reduction resulted from decreased wage differences across schooling levels, and about half resulted from decreases in wage differences across occupational categories.

Of the decline in the wage gap, 42 percent is found in change in the estimated mean black wage residual.[28] Most of this decline (in magnitude) in the residual resulted from improvement in the position of black workers in the residual distribution. That is, controlling for all the included characteristics, and controlling for "within-group" wage compression, the position of black workers improved, producing 28 to 31 percent of the decline in the black-white wage gap. Changes in relative schooling quality and in access to new occupations and industries (within the one-digit categories), along with reductions in market discrimination, all might have contributed to this portion of the improvement in black relative wages. Change in the shape of the residual distribution—that is, within-group wage compression—accounted for about 11 to 14 percent of the total decline in the black-white wage gap.[29]

We now want to classify all of these factors into race-specific effects and wage-distribution effects. Race-specific effects include changes in the (relative) observable characteristics of black workers—their schooling levels, their labor force experience, their marital status. They also include changes in the relative distribution of black workers across occupation, industry, and location. Finally, race-specific effects include anything that improves the position of black workers in the residual distribution. Wage-distribution effects include across-group wage compression reflected in change in the regression coefficients, plus within-group compression reflected in the change in the shape of the residual distribution.

Using this accounting scheme, we find that slightly less than half of the black-white wage convergence of the 1940s was due to wage compression, rather than to the phenomena we normally point to—migration, education, access to new jobs. The rapid decline in the black-white wage gap apparently overstates the underlying change in

[28] The mean black residuals were −0.336 in 1940, −0.230 in 1950, and −0.242 in 1960.

[29] Using a slightly different sample, Margo ("Explaining Black-White Wage") calculates a change in the mean log wage gap of 0.185 between 1940 and 1950. His initial decompositions attribute between 40 and 47 percent of this change to what I am referring to as "race-specific" causes—change in relative observable characteristics plus change in the position of black workers in the residual distribution. He then makes some simple adjustments for change in the quality of black schooling in the South. These adjustments drive the effect of "change in position in the residual distribution" to nearly zero. Using the categories employed here, these adjustments leave between 36 and 45 percent of the change in the log wage gap under the heading of "race-specific change." The primary differences in our samples relate to age (Margo restricts the set to 25- to 64-year-olds) and minimum wage (a nominal weekly wage of $6 in 1940, $8 in 1950, and $20 in 1960 is required for inclusion in Margo's sample).

the position of black workers in the labor market. Between 40 and 48 percent of the decline in the wage gap would have occurred without any change in black workers' education, without migration out of the South, and without change in the jobs held by black workers.

The results of the 1950 to 1960 decomposition are presented in Table 10. During the 1950s, the log wage gap increased slightly, from 0.49 to 0.53. Earlier we found that change in race-specific factors and change in the wage distribution worked in the same direction in the 1940s—both promoted a narrowing of the black-white wage gap. Here we find that the total effect of race-specific factors on the black-white wage gap was near zero. Expansion of the wage distribution worked to increase the racial gap by about 0.04, essentially the full amount of the black-white divergence in the 1950s.

Using the 1960 prices and residual distribution, the full race-specific effect amounts to an increase in the black-white wage gap of about 0.002. Using the 1950 prices and residual distribution, the full race-specific effect amounts to a decline in the gap by about 0.003. Change in relative observable characteristics promoted slight black-white convergence in the 1950s. This effect is primarily driven by change in location, especially movement of black workers out of the South and into the Midwest. This observable race-specific effect is, however, canceled out by decline in the position of black workers in the residual distribution. This "decline in position" is small but important. It means that black workers' wages fell relative to the wages of observably comparable white workers, even after we remove the effects of within-group change in general wage inequality.

Essentially all of the net 1950 to 1960 change, then, was driven by the slight wage expansion of the 1950s. Increasing returns to schooling, a more negative effect of Southern residence, and a negative effect of central city residence all widened the black-white gap during the 1950s. Change in the shape of the residual distribution actually reduced the black-white gap between 1950 and 1960, but this effect was very small.

What do all of these calculations tell us about the uneven path of black-white wage convergence between 1940 and 1960? We have found that the wage compression of the 1940s acted strongly to reduce black-white wage inequality. As a result, simple measures of the change in black relative wages overstate the underlying change in the position of black workers in the labor market. In the same way, the black-white wage divergence of the 1950s is not a completely accurate indicator of race-specific change in this decade. In fact, all of this divergence was driven by wage expansion, specifically by increases in wage differentials across education groups and across regions. Nonetheless, it should be noted that race-specific factors did not promote improvement in the black relative wage in the 1950s. In particular, the position of black workers in the residual distribution declined slightly during this period

TABLE 10
DECOMPOSITION OF CHANGE IN LOG WAGE GAP AMONG NONFARM WORKERS, 1950–1960, BASED ON LOG WAGE REGRESSIONS

	Total Change in Log Wage Gap = .0408 Amount (percent of total) Explained by Change in Each Factor Based on:					
	1960 Coefficients/1950 Characteristics			1950 Coefficients/1960 Characteristics		
Change in Regression Coefficients	.0421		(103%)	.0494		(121%)
Experience and Marital Status		.0013	(3%)		.0029	(7%)
Schooling		.0134	(33%)		.0129	(32%)
Industry		.0035	(9%)		.0053	(13%)
Occupation		.0015	(4%)		.0027	(7%)
Location		.0225	(55%)		.0257	(63%)
Change in Worker Characteristics	−.0132		(−32%)	−.0205		(−50%)
Experience and Marital Status		.0115	(28%)		.0100	(25%)
Schooling		−.0058	(−14%)		−.0053	(−13%)
Industry		.0049	(12%)		.0030	(7%)
Occupation		.0015	(4%)		.0003	(1%)
Location		−.0253	(−62%)		−.0285	(−70%)
Change in Residual Gap:	.0119		(29%)	.0119		(29%)
Change in Shape of Distribution		−.0030	(−7%)		−.0056	(−14%)
Change in Position of Black Workers		.0149	(36%)		.0175	(43%)
Race-Specific Effects:						
Change in Characteristics +		−.0132	(−32%)		−.0205	(−50%)
Change in Position of Black Workers =		.0149	(36%)		.0175	(43%)
Total Race-Specific Change		.0017	(4%)		−.0030	(−7%)
Wage Distribution Effects:						
Change in Coefficients +		.0421	(103%)		.0494	(121%)
Change in Shape of Residual Distribution =		−.0030	(−7%)		−.0056	(−14%)
Total Wage Distribution Effects		.0391	(96%)		−.0438	(107%)

after improving greatly during the 1940s. The pause in black-white convergence in the 1950s thus reflects both a widening of the general wage distribution and a cessation of race-specific advances.

THE IMPACT OF CHANGES IN AGRICULTURE

All of the above describes change in the wages of nonfarm workers.[30] There are good reasons for excluding farmworkers from the analysis. Some farmworkers (laborers, foremen, and managers) are essentially wage workers and have their wages reported in the Census just as other workers do, but they are likely to have received unreported in-kind transfers in addition to reported wages. Other farmworkers (owners, tenants, and self-employed farm service workers) have essentially no earned income reported in the 1940 Census, because only wage and salary income was recorded in that year. Farm income was reported in 1950 and 1960, but this income measure reflects returns to labor, capital, and land. I would prefer to isolate the piece of this income that is a return to labor. Still other farmworkers (unpaid family members) have no labor income reported in any cross section.

Clearly, though, racial differences in the proportion of the labor force on the farm, and racial differences in change in these proportions, are some of the most important developments in labor markets in the 1940s and 1950s. In 1940, about 38 percent of the black male work force worked on farms, versus about 20 percent of white males. During the 1940s, farmwork came to occupy a much smaller share of both the black and white work forces, though the movement off the farm was much more rapid among black workers. By 1950, 23 percent of black male workers and 14 percent of white male workers remained on the farm. Between 1950 and 1960, this movement out of farmwork continued, with the exodus again more rapid among blacks than among whites, so that 10 percent of blacks and 8 percent of whites were involved in farmwork in 1960.[31] Despite the difficulties in measuring farmworkers' income, these large shifts out of farmwork, among both black workers and white workers, need to be accounted for.

Adding farm *wage* workers to the sample poses no special mechanical difficulties. We can simply calculate their wages based on reported wage and salary income and apply to them the same selection criteria that are applied to all other workers (though we must keep in mind that this measure does not capture payment in kind). In the case of nonwage farmworkers, some measure of labor income must first be imputed. The following imputation method is used: farm wage workers are divided

[30] The set of "nonfarm workers" includes workers in the agriculture industry who did not hold farming occupations: drivers, gardeners, and nonclassified laborers and operatives.

[31] U.S. Department of Commerce, *Sixteenth Census*, table 62; *Census of Population*: 1950, table 3; *Census of Population*: 1960, table 3.

into cells according to race, marital status, region, age, and education;[32] nonwage farmworkers are then classified into these same cells and allocated wages randomly from the corresponding farm wage worker cell. This method produces estimated wages that exploit the information contained in individual characteristics while also preserving the important changes in within-group wage distributions in the 1940s and 1950s.[33]

When added to the sample, nonwage farmworkers comprise shares of the total work force that are in the neighborhood of the true population shares.[34] When we include these workers in the calculations, we find that the wage compression of the 1940s appears even more pronounced than before, whereas the wage expansion of the 1950s is smaller than that observed among nonfarm workers alone: for this full sample, the 90–10 wage gap falls from 1.93 to 1.25 between 1940 and 1950, then rises to 1.26 in 1960. The wage distribution among farmworkers themselves widened a bit between 1940 and 1950 and narrowed between 1950 and 1960: the 90–10 gap among white farmworkers was 1.65 in 1940, 1.69 in 1950, and 1.65 in 1960. The ratio of the mean wage of white farmworkers to the overall white mean wage rose during the 1940s, from 0.41 to 0.51, and then fell to 0.50 by 1960.

Inclusion of farmworkers has considerable, but predictable, effects on the decomposition results.[35] The black-white gap for the full set of workers was 0.88 in 1940, considerably larger than the gap of 0.74 among nonfarm workers. This is no surprise—I have added more low-wage black farmworkers (as a share of the total black sample) than low-wage white farmworkers (as a share of the total white sample). The overall 1940–1950 change in the black-white log wage gap was much greater for this sample—the gap declined by 0.36, as opposed to 0.25 for nonfarm workers alone. Again, this is no surprise: black workers left low-paying Southern agriculture more rapidly than did white workers in the 1940s, and we did not account for this movement in the initial, nonfarm decomposition. As we would expect, then, most of this increase in the change in the black-white gap is attributed in the

[32] Two race categories, two marital status categories, four regions (Northeast, South, Midwest, and West), four age categories (18 to 24, 25 to 34, 35 to 54, 55+), and two education categories (8 or fewer years, more than 8 years) produce 128 cells, or 128 separate wage distributions.

[33] Other researchers have dealt with farmworkers in Census PUMS data in a number of ways. Smith and Welch, in "Black Economic Progress," include both wage and nonwage farmworkers in their analysis but restrict the sample to wage and salary workers for all other occupations. They calculate wages using both wage and nonwage income (when it is available) for all workers. Margo ("Explaining Black-White Wage") and Goldin and Margo ("The Great Compression") include wage and salary workers in their sample, presumably including farmworkers who fall into this category.

[34] Among black workers, 7,650 farmworkers are added in 1940 (5,422 with imputed wages), 1,012 in 1950 (722 with imputed wages), and 2,006 in 1960 (886 with imputed wages). Among whites, 44,002 are added in 1940 (35,898 with imputed wages), 8,401 in 1950 (6,792 with imputed wages), and 20,274 in 1960 (16,220 with imputed wages).

[35] Regression results for the full sample do not differ greatly from the results for nonfarm workers alone. Details available from the author.

decomposition to an increase in the importance of change in workers' characteristics, especially their location and occupation (see Table 11). In the end, race-specific effects appear to explain a larger share of overall black progress in the 1940s for this more inclusive set of workers, accounting for between 57 and 69 percent of the total change in the log wage gap.

For the 1950s, the inclusion of farmworkers slightly reduces the amount by which black relative wages declined during this decade. When we add these workers to the sample, we find that the black-white log wage gap increased by about 0.038 during the 1950s (as opposed to an increase of 0.041 among nonfarm workers). As in the 1940–1950 decomposition, the addition of farmworkers increases the importance of change in observable characteristics, again illustrating the effect of the rapid movement of black workers out of low-paying farm occupations during the 1950s. Note, though, that the inclusion of these workers also

TABLE 11
DECOMPOSITION OF CHANGE IN LOG WAGE GAP, FARMWORKERS INCLUDED

	A. 1940–1950 *Total Change in Log Wage Gap = −.3595* Amount (percent of total) Explained by Change in Each Factor Based on:			
	1950 Coefficients/ 1940 Characteristics		1940 Coefficients/ 1950 Characteristics	
Race-Specific Effects:				
Change in Characteristics +	−.1483	(41%)	−.1895	(53%)
Change in Position of Black Workers =	−.0557	(16%)	−.0585	(16%)
Total Race-Specific Change	−.2040	(57%)	−.2480	(69%)
Wage Distribution Effects:				
Change in Coefficients +	−.1236	(34%)	−.0824	(23%)
Change in Shape of Residual Distribution =	−.0318	(9%)	−.0291	(8%)
Total Wage Distribution Effects	−.1554	(43%)	−.1115	(32%)
	B. 1950–1960 *Total Change in Log Wage Gap = .0376* Amount (percent of total) Explained by Change in Each Factor Based on:			
	1960 Coefficients/ 1950 Characteristics		1950 Coefficients/ 1960 Characteristics	
Race-Specific Effects:				
Change in Characteristics +	−.0313	(−83%)	−.0393	(−104%)
Change in Position of Black Workers =	.0414	(110%)	.0456	(121%)
Total Race-Specific Change	.0101	(27%)	.0063	(17%)
Wage Distribution Effects:				
Change in Coefficients +	.0370	(98%)	.0449	(119%)
Change in Shape of Residual Distribution =	−.0094	(−25%)	−.0137	(−36%)
Total Wage Distribution Effects	.0276	(73%)	.0312	(83%)

produces a more pronounced decline in the residual position of black workers between 1950 and 1960. Again, it appears that black workers' wages fell relative to those of observably comparable whites, even after change in the wage distribution has been controlled for. In this estimation, then, race-specific factors, on net, promoted a small increase in the black-white wage gap during the 1950s. Wage-distribution effects, especially increases in wage differentials across education groups and across regions, accounted for the remainder of the increase in the black-white gap.

In the 1940s, then, the rapid exodus of black workers from the relatively low-paying Southern farm sector increased the pace of black-white wage convergence. Thus, when we include farmworkers in the analysis, we find that over half, and perhaps more than two-thirds, of the wage convergence of the 1940s was due to race-specific causes, especially movement of black workers out of the South and into new occupations. In the 1950s, changes in location and occupation slowed dramatically. Perhaps the most striking feature of these results, though, is that black relative wages declined conditional on observed characteristics *and* conditional on the shape of the wage distribution during the 1950s. When this stagnation in race-specific sources of wage convergence is added to the expansion of across-group wage differentials in the 1950s, we find a net decline in the black relative wage.

CONCLUSION

The 1940s and 1950s witnessed extremely dramatic changes in the pace of black-white wage convergence. We cannot presume to understand the forces that determine racial inequality in the labor market without addressing the turbulence of these two decades. Certainly, we might expect that intense labor demand along with government contract compliance regulations during the war promoted more rapid improvement in black relative wages in the 1940s than in the 1950s. Just as certainly, however, continued improvements in black educational levels and continuing black migration in the 1950s make the lack of any significant improvement in black relative wages during this decade rather surprising.

Distinguishing the effects of change in the wage distribution from race-specific sources of improvement in the black relative wage provides only a partial solution to this puzzle. The rapid wage convergence of the 1940s was not solely due to black migration and occupational gains; a considerable portion was due to general wage compression. Migration, access to new jobs, and increased education continued to raise the black relative wage in the 1950s but much more slowly than in the 1940s. A decline in the relative wages of black workers conditional on their observable characteristics and conditional on the shape of the

wage distribution essentially canceled out those small gains. General wage expansion during this decade then served to lower the black relative wage on net. Even after the effects of wage compression and expansion have been controlled, a sharp contrast remains between the black progress of the 1940s and the stagnation of the 1950s.

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[Footnotes]

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